THE

HORTICULTURAL REGISTER

AND

GARDENER'S MAGAZINE.

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INTRODUCTION.

The benefits, which have resulted, and which may well be anticipated as still in reserve to bless the human race from the science and the art of Horticulture, can scarcely be overrated, and require no formal specification. As a means of subsistence, this fine but useful art is the first resort of man, when emerging from a savage and aspiring to a civilized state. The love of gardening is natural to the human race, and is one of the first propensities developed in children, as soon as they become capable of receiving pleasure from intellectual as well as from corporeal gratifications. The inclination to seek enjoyment in cultivating a garden is not only of the earliest occurrence, but continues latest in life—is not only the delight of childhood but the solace of age. "The enjoyment of a garden is so congenial to our ideas of happiness as to be desired by men of all ranks and professions, who toil hard in cities, hoping with Cowley, one day to retire to a small house and large garden."

The following remarks, from the "Memoirs of a French Nobleman," are so appropriate to our purpose, that we are induced to give them in this place :—

"I could wish to inspire all the world with a taste for gardens. It seems to me impossible that a bad man should possess it. There is no virtue, which I do not attribute to him, who loves to talk of gardens and to form them. Absorbed in this passion, which is the only one which increases with age, he daily overcomes those, which derange the calmness of the soul or the order of society. When he has passed the limits of the city, the seat of moral and physical corruption, to go and work on his lands or enjoy them, his heart rejoices at the sight of na-

ture, and experiences the same sensation as his lungs, on receiving the pure air that refreshes them."

Sir W. Temple observed, that, "As gardening has been the inclination of kings, and the choice of philosophers, so it has been the common favorite of public and private men; a pleasure of the greatest, and the care of the meanest, and indeed an employment, and possession, for which no man is too high nor too low."

Perhaps there is no part of the United States, which presents greater natural advantages to those, who are or wish to be engaged in the pursuits of horticulture than the vicinity of Boston. These are well portrayed in a letter from Mr. WILLIAM WILSON, a gentleman well versed both in the science and practice of gardening, who had been appointed a delegate from the New-York Horticultural Society to attend an anniversary dinner of the Massachusetts Horticultural Society. We quote from his remarks the following:—

"The face of the country to the south and west of Boston, to a distance of many miles in extent, presents a beautiful aspect, and, from the great variety of its broken and highly diversified surface, exhibits, in all directions, the most charming sites for beautiful villas. The natural characteristic of this part of the country may be justly termed that of the beautiful—the limits of the low ground no where extending to such a degree as to tire the view, nor any of the high grounds arising to that degree of elevation calculated to inspire emotions of magnificence or the sublime. The soil in general appears to be a light warm loam, of no great depth, resting upon rather a gravelly kind of bottom, and seems remarkably well adapted to the growth of fruit and forest trees. The proportion of woods and trees, it appears, had at one time been scanty. But this deficiency is now very well supplied by ornamental plantations, set out with such taste and managed with such skill as to be productive of the finest effect. The Bostonians have most judiciously availed themselves of the numerous and delightful situations every where presented in the vicinity for forming country residences. Their houses exhibit rather a style of beautiful simplicity than of ostentatious grandeur. In the disposition of their grounds, they display a more refined taste for ornamental gardening, and the cultivation of particular fruits, and seem to excel more in these departments than in the kitchen garden."

These remarks, from a scientific and judicious foreigner, afford proof that the location of the *Horticultural Register* in Boston promises fair to afford facilities for procuring intelligence relative to the objects, to which the work will be devoted. We shall endeavor to avail ourselves of them to the full extent of our means and possible exertions. We would premise, however, that our object is utility, and not display. We shall generally avoid words of "learned length and thundering sound," and when we use botanical and other technical

phrases, we shall commonly accompany their use with an explanation in words of common occurrence, and to be found in every English Dictionary. But we believe that terms of art will by degrees become less annoying to common readers, because they will be more universally understood. They are often used without pedantry, because their meaning is precise, and understood by men of science of all nations. For instance, the meaning of the botanical term *calyx* may be given in its definition, which is "that outer green part of a flower, usually divided into small leaves, sustaining and embracing the corolla, or secondary covering." But always to give the definition instead of the term would be tedious, and, to many, disgusting. We shall, therefore, pursue a middle course, and give the technical term, for the sake of brevity, without its definition, unless we should apprehend that its meaning may not be generally and readily comprehended. But if we should now and then make use of words, which are obscure or unintelligible to some of our readers, and they should thereby be induced to search for their signification in dictionaries, glossaries, &c. the acquisition of new and useful ideas might be the consequence. We shall, however, commence with plain words and simple ideas, and if our patrons appear to require something more erudite and complex, we shall gratify them to the extent of our powers and researches.

Gardening is a kind of agriculture, and may be considered as miniature farming. The more perfect farming becomes, the more nearly it resembles gardening. Both might be embraced in one word, (if we were disposed to coin one,) viz. *terraculture*, or the art of increasing and ameliorating the useful and ornamental products of the soil. Still there are shades of difference between the two arts, and articles or communications proper for a Farmer's Journal might seem a little out of place in a Horticultural Register, and *vice versa*. Many of our farming customers have, from time to time, complained that the *New-England Farmer* has been too much occupied with matter relating exclusively to Horticulture; and, on the other hand, gardeners have asserted that our Agriculture is almost useless to them. With a desire, as far as possible, to remedy these evils, we have commenced, and hope to establish, the present work, to serve as an accompaniment to the New-England Farmer, that the two publications might embrace the topics of most interest, as well to field cultivators as to those, whose tillage is mostly or exclusively limited to gardens.

The work we now commence has been several years in contemplation, and the writer of this article has been repeatedly solicited by Mr. Barrett, for two years past, to undertake to conduct a magazine of the kind. The want of health, and a fair prospect of such assist-

ance as can alone give a chance of success, has, till the present period, induced him to decline the undertaking. These obstacles being in a great measure removed, we now assume our editorial chair with a wish that, by persevering industry, we may in some degree promote the important objects to which this Journal is devoted.

T. G. FESSENDEN.

Boston, January 1, 1835.

ON THE IMPORTANCE OF CULTIVATING GOOD FRUIT.

CULTIVATORS, generally speaking, in this country, do not seem to be aware of the importance of cultivating the best varieties of fruit. They generally consider the article as a *mere luxury*, and, therefore, give but little attention to its culture. But though fruit is not *indispensable* to the support of human existence, and life may be sustained on aliment less palatable and less wholesome, it is, nevertheless, a very useful article, and one of the best gifts of Providence to the human being.

A writer in the Annales d'Horticulture observes that "One of the best aliments, and the best appropriated to the different ages of life, is that which fruits afford. They present to man a light nourishment, of easy digestion, and produce a chyle admirably adapted to the functions of the human body. * * *

"There are fruits, which, when perfectly ripe, can be eaten even to excess without inconvenience. Such as grapes, cherries, and currants; the other kinds never occasion ill consequences if they are eaten only to satisfy the demands of nature. They are injurious when large quantities are taken into the stomach, already filled with other food. There are certain stomachs, with which fruits do not equally well agree, but still they are not injurious if taken with moderation.

* * * *

"Thoroughly ripe fruit, eaten with bread, is perhaps the most innocent of all aliments, and will even insure health and strength. The author of this article has made the experiment. He passed a whole year without taking any other food than fruit, bread, and water, without his power or vigor having been diminished in the least, notwithstanding the great exercise which he constantly took.

"In traversing the territories of Germany, there is to be seen near each habitation, a vineyard or a garden of fruit trees. The villages are surrounded with them, and there are but few families who do not make use of fruits during the summer, and preserve a certain quantity for winter. The surplus is sold in the cities. There are to be seen upon the Rhine, and other rivers in Germany, boats laden with dried apples, pears, and plums. These fruits are objects of considerable

commercial importance. It is desirable that the departmental horticultural societies should offer premiums to encourage the proprietors of small estates to plant fruit trees of the best kinds.

"As the belief is general that fruits produce diseases, and especially the dysentery, we think it our duty to introduce the following passage in relation to this subject, which is to be found in *advice to people upon their health*, by Tissot.

" There is a pernicious prejudice, with which all are too generally imbued :—it is that fruits are injurious in the dysentery, and that they produce and increase it. There is not, perhaps, a more false prejudice.

" Bad fruits, and those which have been imperfectly ripened, in unfavorable seasons may occasion colics, and sometimes diarrhœas,—oftener constipations and diseases of the nerves and skin, but never epidemic dysentery. Ripe fruits of all kinds, especially in the summer, are the true preservatives against this malady. The greatest injury they can do is in dissolving the humors, and particularly the bile, of which they are the true solvents, and occasion a diarrhœa. But even this diarrhœa is a protection against the dysentery. It has not been observed that this disease is more common during those seasons when fruits are very abundant. It is also believed that it is more rare and less severe than heretofore, and this can surely be attributed if it is true, but to the more numerous plantations of fruit trees, which have rendered fruit very common.

" Whenever dysentery has prevailed, I have eaten less animal food and more fruit, and have never had the slightest attack. Several physicians have adopted the same regimen.

" I have seen eleven patients in the same house; nine were obedient to the directions given, and ate fruit; they recovered. The grandmother, and a child she was most partial to, died. She prescribed burnt wine, oil, powerful aromatics, and forbade the use of fruit; it died. She followed the same course, and met the like fate.

" This disease was destroying a Swiss regiment, which was stationed in a garrison, in the southern part of France. The captain purchased the grapes of several acres of vines. The sick soldiers were either carried to the vineyard, or were supplied with grapes from it, if they were too feeble to be removed. They ate nothing else; not another died,—nor were any more attacked with the complaint after they commenced eating grapes.

" A minister was attacked with the dysentery, and the medicines which were administered gave no relief; he saw by accident some red currants, and had a great desire to eat them; he ate three pounds between seven o'clock in the morning and nine o'clock in the evening; he was better during the day, and entirely cured the next.

" I could accumulate a great number of these facts, but the above are sufficient to convince the most incredulous. Far from prohibiting the use of fruits when the dysentery prevails, too many of them cannot be eaten. The discretion of the police, instead of interdicting them, should cause the markets to be abundantly supplied with them. This is a truth, which intelligent persons no longer doubt. Experience has demonstrated it, and it is founded in reason, since fruits remove all the causes of dysentery."

Willich's Domestic Encyclopedia observes that "apples, besides their aromatic qualities, are wholesome and laxative when fully ripe. In diseases of the breast, such as catarrhs, coughs, asthmas, consumptions, &c. they are of considerable service; for these beneficial purposes, however, they ought not to be eaten raw, but either roasted, stewed, or boiled; they also may be usefully employed in decoctions, which, if drank plentifully, tend to abate febrile heat, as well as to relieve painful strictures, in pectoral complaints."

There are many uses for fruit, which do not appear to have become so general in this country as could be wished. In France, bread is made consisting of one-third of boiled apple-pulp, baked with two-thirds flour, properly fermented with yeast for twelve hours. This bread is said to be very fine, full of eyes, and extremely palatable and light.

Apples and other good fruit ameliorate the taste and the tone of the human system. "The palate," says Mr. Knight, the celebrated English horticulturist, "which relishes fruit, is seldom pleased with strong fermented liquors; and, as feeble causes continually acting, ultimately produce extensive effects, the supplying the public with fruit at a cheap rate would have a tendency to operate favorably both on the physical and moral health of the people."

It has been ascertained that apples make an excellent food for swine, cattle, &c. Some assert that not only sweet apples, but sour apples are valuable for that purpose, especially, when boiled and mixed with potatoes or other roots.

If, then, fruit has valuable uses, not merely as a luxury, but as an article both of food and medicine, it must be of much importance to propagate the best varieties. It is not more expensive to raise the best than to cultivate those which are comparatively worthless. We are, therefore, much gratified in being able to place before our readers the following valuable article, by R. Manning, Esq. of Salem, Mass.

Mr. Fessenden,—Sir, Inquiries having been made for a List of Fruits, adapted to the climate of New-England, the Fruit Committee of the Massachusetts Horticultural Society offer to the public the following list of Apples, Pears, Plums, and Peaches; all of them good, and many of them excellent. They do not wish to be understood as saying that the list contains *all* the fruits worth cultivating, but they prefer to recommend a few sorts known by experience to be good, to a large number of doubtful names, whose merits have not been sufficiently tested. Additions will be made to the list after the close of the ensuing fruit season, which will be published in the New-England Farmer. All of the fruits enumerated, have been exhibited at the

meetings of the Horticultural Society; bearing trees of most of them are now growing in the gardens of the members of the Committee, and trees can be had at any of the Nursery Establishments in the vicinity.

It may be proper to remark also, that the time of maturity, of the different varieties, is designated in nearly all the nursery catalogues, a point of much importance to be attended to, with a view to a regular succession of fruit, as well as the fact that there are some kinds embraced in this list, which, although it would be very desirable for every fruit grower to possess a single tree, could, by no means, be recommended for extensive cultivation, whilst others may be cultivated to any extent desired. These points, as well as the relative degrees of excellence between good, better, and best, applicable to the different varieties, must be left to the taste of the cultivator, which, in the advanced state of knowledge upon the subject, it is presumed, almost every one has within his reach the means of determining correctly.

APPLES.

Early Harvest,
Red Margaret,
Bough,
Summer Rose,
Summer Queen,
Summer Pearmain,
Drap d'Or,
Fall Pippin,
Doctor or Dewitt,
Hawthorndean,
Pennock's Red Winter,
Baldwin,
Lady, Pomme d'Api,
Yellow Bellflower,
Ribstone Pippin,
Rhode-Island Greening,
Roxbury Russett,
Red Astracan,
Kilham Hill,
William's Favorite,
Murphy,
Hubbardston Nonesuch,
Ortley,
Porter's Favorite,
Eppes's Sweet,
Benoni,
American Red Juneating,
Stump of Boxford,
Lyscom,
Jonathan,
Wine,
Yellow Ingestrie,
Red Ingestrie.

PEARS.

Little Musk,
Amire Johanet,
Madeline,
Epargne, (Jargonelle,)
Skinless,
Julienne,
Buffum,
Seckle,
Harvard,
Red Bergamot, (French,)
Chaumontelle,
Beurre Diel,

Long Green,
Rouselette de Rheims,
Prince's Sugar,
Lowry's Bergamot,
Moorfowl's Egg,
Autumn Bergamot, (Eng.)
Washington,
Fulton,
Heathcote,
Green Sylvanche,
Johonnot,
Napoleon,
Passe Colmar,
Raymond,
Saint Ghislein,
Urbaniste,
Wilkinson,
Colmar Souverain,
Burgomaster,
Beurre Knox,
Bleecker's Meadow,
Bartlett,
Capiaumont,
Cushing,
Dix,
Angouleme,
Summer Thorn,
Andrews,
Dearborn Seedling,
Surpasse Vergalieu,
Naumkeag,
Golden Beurre of Bilboa,
Wilbur,
Cumberland,
Knight's Seedling,
Capsheaf,
Winter Orange,
L'Echasserie.

PLUMS.

Green Gage,
Washington,
Prince's Imperial Gage,
Orleans,
Smith's Orleans,
Bingham,
Elfrey,
Coe's Golden Drop,
Bleeker's Gage,
Italian Damask,
Peach,
Semiana, (of Boston,)
Royale de Tours,
Pond's Seedling.

CHERRIES.

May Duke,
Black Tartarean,
Black Heart,
White Biggareau,
Davenport,
Graffian,
Late Duke,
Downer's Late Red,
Black Eagle,
Belle de Choisy,
White Tartarean.

PEACHES, FREESTONES.

Early Ann,
Early Royal George,
Large Early Red Rareripe,
Coolidge's Favorite,
Morris's White,
Old Mixon,
Van Zandt's Superb,
Washington,
Yellow Red Rareripe,
Teton de Venus,
Heath, (Kenrick's,)
Wells's Seedling,

Grosse Mignonne,	Hoffman's Favorite,
Red Magdalen,	Barrington,
Yellow Rareripe,	Clingstone,
Yellow Alberge,	Kennedy's Lemon,
Malta, Belle de Paris,	Old Newington,
Belle de Vitry,	Williamson,
Nivette,	Spanish,
President,	Hyslop's,
George Fourth,	Heath,
White Blossom, (Snow,)	Congress.

[For the Horticultural Register.]

NEW FRUITS.

The desire has often been expressed and a call more or less imperative is often made, for a select list of fruits, a limited number, of *the best possible kinds.* It is evident, however, that, at this early day, such calls may be premature, inasmuch as no select list can consistently be offered, except of such kinds only as have been proved in our country. But as many of the new kinds of fruit of the highest character, have not as yet borne fruit in our country, and must therefore be excluded, it must be obvious, that such lists will from time to time require a revision.

Such a select list as we should be truly desirous of offering to the public as *the very best possible*, cannot yet be formed, till all the new and finest kinds, which this extraordinary age has produced, have been here put to trial.

Effectual measures are now in train, which it is to be hoped may bring them all—a host in numbers, in names, and in excellence.

Last spring, and late in May, through the distinguishad liberality and philanthropy of the celebrated Professor Van Mons of Louvain, Mr. Manning and myself received over three hundred select varieties of new Flemish Pears, of the first class for excellence, very many of which, had not yet been disseminated even in Europe. But although every exertion was used, we were yet enabled to save, unitedly, not over one hundred kinds; and, through the liberality of the London Horticultural Society, we also received over fifty new kinds of Pears, besides some other varieties, chiefly Flemish, and which have been proved, in their celebrated garden of Chiswick, to be of great excellence. This number, and from this source, we have also been enabled to save. We look,

however, for the renewals, and to complete our lists from both sources, of all that is excellent. All these will be put to immediate trial; and the results the public may in due time depend on knowing.

During the last thirty years, more kinds of pears of celebrated excellence have originated in Belgium, than all that ever existed before. This is principally to be ascribed to the distinguished zeal and successful experiments of Van Mons, and of Hardenpont, of Coloma, of Meuris, of Nelis, of Duquesne, of Dorlain, of Liart, and of others.

Dr. Van Mons and the Abbe Duquesne are stated to have originated more than eight hundred fine kinds of pears, with experiments on eighty thousand, and on a vast scale. Their practice seems to have been, in many respects, the reverse of all the popular theories of the day—the results unlike any thing of the kind before known.

WILLIAM KENRICK.

Newton, Dec. 24, 1834.

[For the Horticultural Register.]

CULTIVATION AND PROTECTION OF PLANTS.

SIR,—I hail with pleasure the appearance of your periodical work as the means of increasing the taste in this highly favored country for the useful and ornamental cultivation of the earth. If this increasing taste should result in the formation of central and branch societies for the prize exhibition of flowers and fruits, the occupation of horticulture would afford sufficient interest and excitement to engage the leisure hours of those who having acquired by industry sufficient wealth, would gladly retire from commerce, could such an amusement be found, as would fill the vacuum of minds used to activity and the excitation of rivalry.

I have recently witnessed the erection, in the vicinity of Boston, of numerous villas and country seats, many with aspects due east, and others altogether without protection from the northeast and northwest winds, which are of the longest duration and the severest in this climate. It is, of course, hardly to be expected that plants even of northern habits can flourish under such circumstances. Many of them even in their native situations enjoy local protection from forest moss or long grass; their beauty acquires for them the eminence of transplantation to ornament the habitations of man; and, without the requisite attention to their native soil and habits, is it to be wondered at that they dwindle and finally perish? Such is the fate of the fragrant Magnolia Glauca, the splendid Rhododendron Maximum, the

Kalmia Latifolia, and many others which are brought and transplanted by cart-loads, every year, at a useless expense and vexation.

My first care in selecting a spot for a house and garden, would be to secure the shelter of some rising ground from the rude northern blast; and then to form an additional barrier, by planting a belt of evergreen trees from fifty to one hundred feet in depth; such as the red cypress, commonly called the Savin, intermingled with the varieties of evergreen fir, and those oaks which retain their foliage during the winter. The red cypress of all sizes abounds in this vicinity, and may be easily transplanted of any size, by digging a trench in the fall all round the tree, undermining gradually, and when the first frost hardens the earth about the roots, so that it will move without exposing them, it may be lifted and placed in the hole previously dug to receive it, taking care, if the frost should prevent its being properly filled in and fixed, to fill up with straw or litter the tree to a stake so that it be not blown down.

With such protection I doubt not that the Magnolia and Rhododendron would retain their foliage during a moderate winter; the light and elegant green of their leaves, contrasted with the dark colors of the fir and cypress, would add considerably to the charm of a winter landscape.

If, in addition, this belt could be bordered inside with a close-cropped hedge of Privet or Thorn, the shelter would be rendered efficient for herbaceous plants interspersed amongst the above; for this purpose I should recommend the formation of a border entirely of peat earth to the depth of three feet, in which might be planted the hardy species of Magnolia, the Rhododendrons, Azaleas, Kalmias, and a host of others, which prefer this earth on account of its obstinate retention of moisture. To run over the surface between these may be placed the very fragrant Mitchella repens, and Epigea repens, (Mayflower,) the Gualtheria procumbens (Checkerberry,) with its lively red berry, which plants now "waste their sweetness in the desert air," and are all to be found in the vicinity of Boston.

In very severe winters the boughs of the cypress laid in such a border would be of considerable use in preserving plants of high and shrubby growth, but for those of humbler pretensions six inches of Sphagnum (the bog moss,) were preferable, and, indeed, even in the summer this latter covering would protect them from the scorching and drying rays of the mid-day sun,—and as all mosses, however dry, immediately recover their verdure on the application of moisture and retain it for some time, the appearance would be far from unsightly.

Dec. 1834. I. E. T

[For the Horticultural Register.]

ON THE GRAPE VINE.

THE grape vine is a deciduous tree, with an irregular contorted stem, and long flexible branches. They trail on the earth, or, connected by their tendrils to trees, they rise vertically, even to the summits of those which crown the forest. The leaves are large, smooth, or downy, serrated, lobed, or entire. The leaves and footstalks of the white or yellow grapes, change from a green to a yellow color late in autumn, and those of the red or black grapes, to a reddish hue. The blossoms are produced in long clusters or racemes, from the wood of the same year; they possess a fragrant odor. The fruit is in clusters, the berries round or oblong; their color varying from white or yellow to red, to blue, or to black. The pulp contains a juice, rich, saccharine, and abundant, of surpassing flavor. The berries contain from one or two, to five small stones. Those, however, of the Ascalon, or Corinth, and the Sultana, have none.

In speaking of the culture of the vine, we should have due regard to those modes of management which are practised in a country, one of the most enlightened, and possessing a climate not very much unlike our own; where the vine has been cultivated as an article of commerce and subsistence for two thousand years; and where six millions of acres are cultivated in vineyards.

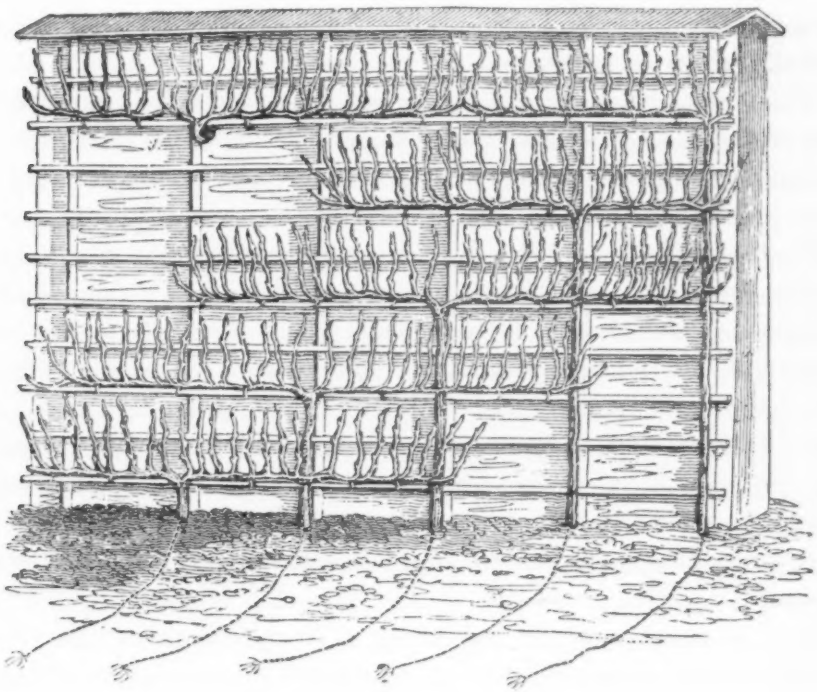
From all the accounts which we have been enabled to receive, it will appear that the climate of Paris, in the north of France, differs not very materially in the average amount of heat and cold, from that of Boston, the capital of New-England. Their springtime, from its commencement, which is early in March, is obnoxious to storms, and the destructive frosts of winter. Our springs, from their not commencing till a later period, are rather intermingled with the heat of summer; and the vine, with us, never, or but rarely, begins to vegetate, till the vernal frosts are gone. With us, vegetation slumbers long, and in deep security, immured in our winters, so intensely cold, nor awakes, till the danger is past. For the longer duration of their springs, their summers, and their autumns, we are more than recompensed, even in our winters, so rigorous and so happily prolonged; and in our skies, so serene and unclouded; and in a sun, less inconstant, more fervid, and intense in its heat, from its greater elevation.

In the middle and northern departments of France, and in vineyard culture, the vines are kept low, like plantations of the raspberry, the vines being planted in close order; or they are trained to low stakes,

which are renewed every year. When the vine has risen to a height sufficiently above, it is bent over, and passed to the top of the next stake, and secured in its rear; its luxuriance being thus restrained.

The same system of restriction is practised at the *Clos de Vougeaud.* This is regarded as the best vineyard in France, and was sold during the revolution, and in 1794, for one million one hundred thousand francs. This vineyard is walled round. The vines being kept low, and the ground never manured. The soil is calcareous, on a foundation of limestone or calcareous rocks.

In cold countries, where grapes require the whole heat of the sun, the vines, according to the best authority, should be elevated on poles, placed perpendicularly in earth. And in this mode the vines may be very closely planted. The earth being left uncovered, and receiving all the heat of the sun's rays, and these being reverberated, the whole plant is exposed to its action. But in warmer climates the earth requires to be sheltered from the excessive heat of the sun, and the vines may be supported on arbors, or suffered to creep on the ground.



The mode of training the vine at Thomery, as represented in the cut above, appears to have originated from the well-known and singular fact, that an extended vine produces not fruit except at its *extremities.* That a vine carried beyond the bounds of a limited extent, ever becomes barren at its base. The system of training and

pruning, which is there practised, and with such signal success, may therefore be considered, as the perfection of every mode which has ever been devised.*

Thomery is a village near Fontainbleau, and but a few leagues from Paris. Its grapes, with which the markets of the capital are supplied, are proverbial for their superior excellence. It will appear evident, that this justly merited celebrity, is not due either to the superior quality of the soil, or to its favorable exposure; but to the *management* of their grapes *alone*. For Thomery has not a happy exposition; the quality of the soil is inferior, in many parts sterile. It is on the side of a hill, facing north and east, and sloping to the river Seine, which washes its base; the soil is clayey, cold, and almost incredibly hard to cultivate.

The vines of Thomery are trained to trellises which are attached to vertical walls. The rails of the trellises are nine inches asunder, the lowest rail being six inches from the ground. The walls are of clay, plastered on both sides with a cement of lime and sand; their height is eight feet, and they face to the east, and to the south, and are covered by a coping, which projects nine or ten inches over the vines, to defend them from frosts, and hail, and from rain.

The vines are trained in cordons, each vine being trained in a cordon of eight feet. This cordon is formed of two arms, each four feet in length, and proceeding horizontally in opposite directions, from the same point of the vertical stem.

The lower cordon is formed from vines planted eight feet asunder on the border, and secured to its destined position on the rail at six inches from the earth. The second cordon, which is formed from vines planted intermediate, and twenty inches on the border from the first, is secured to the rail a foot and a half above the lower cordon. In like manner, and at the same respective distances asunder, the third cordon, the fourth, and the fifth, or upper cordon, are formed, and each secured at different heights, to their destined rails; and the work being completed, the vines will be twenty inches asunder in the border.

Each arm of the cordon is provided with eight spurs, which should be situated six inches asunder; and from each spur two fruitful shoots are annually produced, which are trained vertically and secured to the intermediate rails—and each vertical shoot will produce two clusters.

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* The preceding engraving is from the Transactions of the London Horticultural Society, and in one particular it is evidently wrong. The vines are here placed two feet asunder, whereas they ought to be but twenty inches. This rendered it necessary to bring the whole upper tier or cordon, through an aperture from the back side of the wall.

Thus when the cordons are once completed, there will be produced on each cordon, sixty-four clusters; and on every continuous square of eight feet, three hundred and twenty fine clusters will be annually produced.

The completion of the cordons is a work of some years, but meanwhile some fruit is annually produced. But when once completed, they remain without change, and unaltered. This most perfect control is preserved by *spur-pruning*. Spur-pruning consists in cutting the vine in autumn, to within a quarter of an inch of its base, and the young and fruitful shoots, which are annually produced from the spurs, issue from the almost invisible eyes, which will be found, situated at the very base of the shoots of the former year.

The borders in which the vines are planted at Thomery, are formed sloping, that superfluous moisture may be drained off. The ground is kept uncovered and bare; it is never dug deep, but cultivated lightly, and only with the hoe. Every art is from the beginning used to multiply innumerably the roots, these being encouraged to approach near the surface undisturbed.

When it is attempted to train a single vine with two or more sets of cordons, proceeding at unequal heights, from the same vertical stem, the upper cordon becomes the *superior*, and the equilibrium is destroyed; and the lower or inferior cordons languish, being robbed of their nourishment by those above, and the tendency of the sap to pass uninterruptedly upwards.

For a more perfect account of this system, which should be understood in perfection before it is attempted in practice, we might refer to the Bon Jardinier—to the account of Mr. Robertson in London Hort. Trans. or to Loudon's Magazine, or to the New American Orchardist.

The long canes of the vine, the production of a single year, if left to themselves, will only break, and produce fruit at their extremities. To enable them to produce fruit throughout their whole length, *art* is necessary. Before vegetation commences in spring, the long cane or vine of the former year's growth, may, if in vineyard culture, be trained spirally, around a stake or pole. Or otherwise it may be tied in a coil; by either mode of treatment, the buds will break, and grow equally from its extremity to its base. When the buds have grown an inch or a little more, the vine may be uncoiled, and secured to its destined position on the rails or trellis. In this way astonishing crops of grapes are produced.

WILLIAM KENRICK.

Newton, Dec. 25, 1834.

ESCHSCHOLTZIA CALIFORNICA.

(CALIFORNIAN ESCHSCHOLTZIA.)

The Eschscholtzia is a hardy annual, the seed of which should be started in a green-house or frame and transplanted in May into the open ground. Each plant affords a large number of decumbent stems covered with a glaucous foliage, from which arise the most brilliant yellow flowers with a dark orange eye, unfolding their petals in the sun and closing them at the approach of rain.

The plant grows about one foot high, and flowers from July to September. We have never known but one plant affording a double flower, and that was cultivated in the garden of M. P. Wilder, Esq. of Dorchester. It was as double as a rose, and could it be so propagated as to insure it constantly double, it would be found a great acquisition to the flower garden.

[For the Horticultural Register.]

HYACINTHS AND OTHER FLOWER ROOTS.

All bulbous flower roots should be planted in a light soil, rather rich, and the proper time for planting in the open ground is in October and November, in beds or borders, to be prepared by digging up the ground two feet deep and enriching it with old stable manure. The large nurserymen and florists in London, particularly those in the branch of early flowers, plant their Hyacinths six or eight inches apart, cover them over six or eight inches deep with warm manure; late in January or early in February they remove the manure and lift the bulb, which has thrown up three or six inches yellow stem. They place them in pots, in the green-house; the stem becomes quickly green by exposure to light, while the flower stalk, formed under protection of the leaves, shoots rapidly up, and a few days are sufficient for the flowers to unfold in perfection.

To bloom them in pots in the green-house, a plan new to us is practised by Mr. Haggerston at the garden of J. P. Cushing, Esq. which is to cover the pots containing the Hyacinth with others inverted, which remain until they have started about three inches, when they are taken off and the flower unfolds similar to the manner described. The benefit of being thus covered is, retarding too rapid a growth, strengthening the stem, and throwing it up higher and better set with flowers. This plan might be adopted in a warm room.

The following remarks are from a sheet recently published by G. C. Barrett, and are directions for the management of bulbs and plants in the parlor; and as a little science in parlor-window Floriculture might be beneficial to practice, we here insert them.

"*Hyacinths* and other bulbs that are intended to flower in glasses, should be placed therein during October and November, and kept in a cool room. After the fibres begin to push a few shoots, the glasses may be taken to the warmest apartments to cause them to flower early. Bring a few from the coldest to the warmest every two weeks, and thus a succession of bloom may be kept up from January to March.

"Supply the bulbs with fresh water once a week, in which period they will inhale all the nutritive gas that they derive from that element, if they are in a growing state. Fill the glasses with water, so that the bottom of the bulb may just touch it.

"The water should be changed as it becomes impure; draw the roots entirely out of the glasses; rinse off the fibres in clean water, and wash the inside of the glasses well. Care should be taken that the water does not freeze, as it would not only burst the glass, but cause the fibres to decay.

"December, January and February is the trying season for all plants that are kept in rooms, especially those that are desired to have a

flourishing aspect through the winter, a few general instructions will perhaps be desirable to all those who are engaged in this interesting occupation, which forms a luxury through the retired hours of a winter season, and with very little attention, many are the beauties of vegetative nature that will be developed to the gratification of every reflecting mind.

"All the varieties of *Polyanthus Narcissus* are well adapted for indoor flowering. The Grande Monarque and Roman are charming flowers; the latter is perhaps the earliest of all bulbs; if potted in October or November, it will bloom by Christmas; the flowers are four or five in number, of a delicate satin white, with double cups of a rich jessamine perfume.

"Plants that are kept in rooms generally are such as require a medium temperature, say forty degrees. Sitting rooms or parlors, about this season, are, for the most part, heated from fifty-five to sixty-five, and very seldom has the air any admittance into these apartments, thus keeping the temperature from fifteen to twenty-five degrees higher than the nature of the plants requires, and excluding that fresh air which is requisite to support a forced vegetative principle. Therefore, as far as practicable let the plants be kept in a room adjoining to one where there is fire heat, and the intervening door can be opened when desirable. They will admit sometimes of being as low as thirty-three.

"If they be constantly kept where there is fire, let the window be opened some inches, two or three times a day, for a few minutes, thereby making the air of the apartment more congenial, both for animal and vegetable nature.

"There are very few plants killed for want of water, during winter. All that is necessary is merely to keep the soil in a moist state, that is, do not let it get so dry that you can divide the particles of earth, nor so wet that they could be beat to clay. The frequency of watering can be best regulated by the person doing it, as it depends entirely upon the size of the pot or jar in proportion to the plant, whether it is too little or too large, and the situation it stands in, whether moist or arid. Never allow any quantity of water to stand in flats or saucers except bulbs. This is too frequently practised with plants in general. Such as *Calla Æthiopica*, or African Lily, will do well, as water is its element, (like *Sagittaria* in this country;) and the *Hydrangea hortensis*, when in a growing state, will do admirably under such treatment. Many plants may do well for some time, but it being so contrary to their nature, causes premature decay; a fetid stagnation takes place at the root, the foliage becomes yellow, and the plant stunted; and in the winter season, death will ensue. Clean the foliage with sponge and water frequently, to remove all dust, &c. Turn the plants frequently, to prevent them growing to one side.

"*Camellias*, when in bud and flower, should never be allowed to become the least dry, neither confined from fresh air. The effects would be, that the buds would become stinted, dry, and drop off. Therefore to have these in perfection, attend strictly to watering. Give frequent airings, and wash the leaves once in two weeks with water. Never keep them above one day in a room, where there is a strong coal fire, and not above two days where wood is used as fuel. Most *Camellias*

will bear three degrees of frost without the smallest injury, so that they are easier kept than *Geraniums*, except when they are in bloom. In that state, frost will destroy the flowers. The air of a close cellar is destruction to the buds."

N. B. We hope to be able to give, in an early number of the Magazine, an article upon the varieties and cultivation of the Gladiolus—some new and fine ones have been recently introduced. Ed. Mag.

CLARKEA PULCHELLA.

(BEAUTIFUL CLARKEA.)

The Clarkea, a very pretty annual, recently introduced to cultivation here, is a native of the Rocky Mountains, at which place it was discovered by Capt. Clark, who accompanied Capt. Lewis, and after whom it was named. It is easily raised from seed, which should be sown in March in the green-house, and in May in the open ground; or a better way is to sow the seed in September, which will ensure a much more perfect flower.

[For the Horticultural Register.]

KALMIA LATIFOLIA.

I HAVE been surprised that so little attention has been paid to the plants of our own country, rivaling as they do, in beauty and number, that of any other, the tropical regions excepted.

Among the many shrubs, that embellish the scenery of the interior of the country, the Kailma latifolia, may be considered one of the most elegant among the many others, of which I may give some description at a future period.

Kalmia latifolia belongs to the class Decandria, order Monogynia, of Linnæus, and of the natural order Rhododendron of Jussieu.

It bears the common names of Mountain-Laurel, Laurel, Ivy, Calico-Bush, and Spoonwood. The generic name was given by Linnæus, in honor of Peter Kalm, a pupil of his, professor at Abo in Sweden, author of travels in America. I have not seen this shrub near Boston. At a distance of thirty miles, in a north and north-west direction, it begins to enliven the woodland scenery.

Its general height is from five to ten feet, but may sometimes be found rising from fifteen to twenty feet among the rocks and thickets, almost impenetrable by its crooked and unyielding trunks, locked and entangled with each other. Its leaves are of a coriaceous texture, oval acuminate, entire, and about three inches long ; partially renewed from year to year, evergreen, giving much life to the forests in the winter by their deep shining green. The leaves are narcotic and poisonous to cattle.

Calyx five parted ; coral, wheel salver form, with ten horns beneath, and ten cavities within, containing the anthers, until the pollen is mature, which, by the full expansion of the corolla, are suddenly released from their confinement, by which process the pollen is disseminated.

The flowers are disposed in large corymbs at the extremity of the branches ; numerous, of a pure white, blush, or a beautiful rose color, and more rarely a deep red.

The season of flowering is in the months of June and July. Nothing can exceed the magnificence of its appearance when in full bloom.

As far as the eye can penetrate the deep recesses of the forest, these shrubs are richly laden with their beautiful flowers, the white and pink of the expanded corymbs finely contrasting with the different shades of red by which those in a less forward state are touched. The brilliant effect is much heightend by the richness of the surrounding foli-

age, and the wildness of its favorite location : flourishing best on rocky and secluded steeps of deep ravines, or on the precipitous banks of rivers and mountain brooks.

The seeds are minute, contained in small globose five-celled capsules, which remain through the winter.

The soil in which it best succeeds is soft, loose, and cool, with a northern exposure. It is not altogether confined to the shades of the forest, but may also be found occupying large tracts of pasture ground, much to the annoyance of the farmer, who has not had energy enough to extirpate it from his grounds. The reputed noxious qualities of this elegant plant lessen that esteem, which its beauty claims, especially to those, whose eyes are darkened to the beauties of the vegetable creation.

I believe it is not common for cattle that are well fed to meddle with its leaves, although it is said when turned out in the winter to take care of themselves, as is the practice in some of the middle and southern states, when pinched with hunger they will eat them, and many die in consequence. I have never known an instance of the kind in this region.

Why is not this beautiful shrub more often seen in company with exotics of far less merit? Is it because it has not been far-fetched? Or is it because it is reputed to be of difficult cultivation? It may be that the last is one reason, as I have often heard it said that it was impossible to make it live. This impression is so common that few try the experiment.

I have found, however, that this is not the case, but that, with care in the selection of plants, by transplanting them at the proper season, and planting them in a suitable exposure and soil, there is but little difficulty in making them live. The best time for transplanting is in the month of April. On no account should old shrubs be taken, however vigorous and healthy they may be. You might as well take an old tree with the expectation that it would flourish. Search should be made for young seedling plants, from nine inches to two feet in height, which may occasionally be found on the northern declivity of some steep bank, or in some situation secluded from the noonday sun.

The plants should be taken up with balls of earth attached to their roots, and immediately done up in moss, if to be conveyed to a distance. They should be planted, of course, in a shady situation, under a tree, its natural place, or on the north side of a house or wall. If planted in a place exposed to the scorching sun, without some shade in the middle of day, for the first year, the probability is they will die, unless the soil is moist and cool.

New and beautiful varieties may undoubtedly be produced by sowing the seed; but much care and patience will be necessary. New varieties can be propagated by layers, as they are so found increased in their natural positions in the forests, where their low branches have been covered with leaves, &c. It was my intention to propagate from a beautiful deep red or crimson one I discovered in my rambles last year, by layers; but lately in searching for it, I found, to my great disappointment, that the owner of the land had been making sweeping work not only with this rare variety, but also of the whole race.

I hope soon to see not only the Kalmia but many other beautiful indigenous shrubs and plants more generally introduced into the pleasure-grounds of amateurs and the lovers of floriculture. Yours, &c.

Lancaster, Hort. Garden, Dec. 23, 1834. X.

[For the Horticultural Register.]

ON THE CULTIVATION OF CELERY.

It appears to me that a few practical hints on the cultivation of this useful and delicious vegetable might prove interesting and serviceable to many of your readers. I beg to premise that it is a mere detail of the methods I have practised this summer, by which I have raised celery in heads of two and two and a half feet high, of which twelve to eighteen inches are blanched and tender; they are single heads, without offsets, and many four and five inches in circumference. This method has one convenience, which is, that the young plants are raised in the open ground, without glass or hot-bed.

In the beginning of May, later or earlier, as the season may indicate, dig and pulverise well about six square feet of well manured and open ground—water it very lightly, but thoroughly, with a nose on the watering-pot, early in the day, then sow your seed and water again thoroughly in the same way. Cover up this bed lightly with a double layer of Russia mat, which should be dry, and kept down at the corners with stones; the sun, striking on the mats, penetrates them, and causes a gentle moist heat to rise from the earth; this is the most favorable state of an atmosphere for the vegetation of seeds, and the celery, particularly if not fresh, is very difficult on this point; the covers should be maintained in as dry a state as possible, (after heavy rains, the upper mat might be changed,) because, if wet, considerable evaporation takes place in the night, which is always productive of cold, and would be apt to rot the tender shoot just piercing the seed; on the other hand, if dry, it prevents the escape of heat when the

sun's rays have left the earth, and retains underneath sufficient warmth to prevent any check in the vegetation; in a fortnight or three weeks, according to the season, little yellow and white sprouts will appear; when these are one quarter of an inch high, the upper cover should be removed, that there may not be too much weight on the young plants, and if the weather continues mild, in a few days afterwards, remove the other. If well watered in the beginning, it will scarcely need any further moisture during the first process; but those who practise this method will hardly be restrained from peeping under the mats once or twice during the fortnight, when, if sultry weather has prevailed, their own judgement will guide them on this head.

The second part of the method is to have another piece of ground, double the size of the former, prepared in the same way, and when the young plants are in their fourth leaf, or about two inches high, take them up and transplant them carefully into this fresh bed, about one inch asunder, first trimming the roots a little.

If well watered and weeded, by the first of July they will have attained sufficient growth to be removed into trenches, which should be prepared in an open, well exposed spot, by digging them two spades deep and two and a half feet wide, leaving three or four feet distance between the trenches; on this space is to be piled up, like a bank, the earth taken from the trenches. Put about four inches of good manure at the bottom of each trench, and dig it in; take up the plants, and previous to putting them into the earth, trim the roots very carefully, being sure to cut off the end of the tap root, and eradicate all little shoots and radicles, where the heart joins on to the root, as these shoot up and produce that mass of small heads, seen in our markets, instead of one large, solid, handsome plant; place them about three inches distance and water well for the first week. As the plant grows, gently fill in the trench with the earth on each side, taking care not to throw in large lumps, which twist and contort the celery, and spoil its beauty; and continue earthing up until there is a bank above ground as high as the trench was deep.

I prefer digging the trenches east and west, because the bank on each side shades the young plants in July and August from the rays of the hot sun, and in September and October, when it is desirable the celery should advance as much as possible, the southern bank, earthed up, imbibes the heat and retains it.

I believe, by covering up the trenches well with pine and savin boughs, it may be dug fresh all the winter; but I have placed mine in an upright position in the cellar, half covered with earth and kept moist —they appear to suffer but little.

I have been rather explicit, and given my reasons for each operation at the risk of being thought too prolix; but, whenever I set earnestly to cultivate a plant, I have generally found directions in books rather too vague, and here and there a link wanting in the chain, which gave me trouble to annex; those, therefore, who are well acquainted with this process, must excuse this in favor of those who are not so efficient. I. E. T.

N. B. In our next number we shall give an account of the different varieties of the celery.

[From Loudon's Magazine.]

COILING SYSTEM OF CULTIVATING THE VINE IN POTS.

By Mr. John Mearns, F. H. S. Gardener to his Grace the Duke of Portland, Welbeck, Nottinghamshire.

Sir,—As I have communicated an account of my coiling system of cultivating the vine in pots to several persons, and have also given a statement of my experiments to the London Horticultural Society, I feel it to be a duty also to lay my practice before you.

This coiling system is certainly a completely new feature, and, I think, a very valuable one, in the art of grape-growing. Is it not a matter of great importance that, in consequence of my discovery, a gardener, who may go to a situation, in the autumn, where no grapes have previously been growing, may be enabled to produce there easily, for the ensuing season, from five hundred to one thousand bunches of fine grapes? All that are wanting to enable any gardener, so circumstanced, to do this, are, the prunings of the vines from any garden, that would otherwise be thrown away, and, of course, a convenient frame, pit, or house, for growing them in. If abundance of shoots can be procured, and there is a sufficient extent of frames, &c. either temporary or permanent, two, three, or five thousand bunches may thus be produced in a garden where grapes were never seen before.

The coiling system is nothing more than taking a long shoot or cutting from a vine, cutting out all the buds except a few at the upper end, and then beginning at the lower end, and coiling the shoot round and round, say from three to six or eight times, the inside of a pot of twelve or fourteen inches or more in diameter. The shoot may be of any length, from six feet to thirty feet, and it may be entirely of last year's wood; or the greater part of it may be of old wood, provided three or four feet at the upper end be of new wood; because, as every gardener knows, the buds from young wood are more certain than those from old wood of producing blossom the first year. The vine being coiled round in the pot, and plenty of drainage being put in the bottom, take care that the end of the shoot left out of the pot, on which the fruit is to grow, be not injured at the point where it separates from the coil. This shoot may be two or three feet long; and, to keep it

steady, it may be tied to a stake, or coiled round two or three stakes. After this, fill up the pot with a rich loamy soil, pressing it firmly against the coil, as if you were making firm the end of a cutting. Unless this is done in such a manner as to bring every part of the coil in close contact with the soil, it will not root so readily as it otherwise would do. The next operation is, to wrap up all that part of the stem which is above the pot with moss, and this moss must be kept constantly moist till the grapes are formed. The pot should now be plunged in bottom heat, either in a pit or forcing-house; but, wherever it is plunged, care must be taken to regulate the temperature of the atmosphere of the house, in such a manner as to prevent the top of the vine from being excited before the roots. If this should happen, the young shoots produced will soon wither for want of nourishment. Abundance of air, therefore, should be given for several weeks, so as never to allow the temperature of the atmosphere of the house, frame, or pit, to exceed forty-five or fifty degrees, while the temperature of the medium in which the pots are plunged may be as high as sixty-five or seventy degrees. When, by examination, you find that fibres have protruded from the coil, the temperature of the atmosphere may then be gradually raised, when the buds will break and the shoots will grow apace.

The shoots proceeding from that part of the stem above the pot, should be led up to within eight or ten inches of the glass, and there trained, at that distance from it, towards the back of the pit or house. It is needless to state to the practical gardener, that each shoot will require to be shortened, freed from laterals, &c. Each vine will produce from three to twenty or more bunches, according to the length of coil and variety of grape. I have now (Jan. 17. 1834) upwards of two hundred coiled branches in pots, and nearly fifty of them in action; some with twenty bunches of fine grapes on them.

I was asked the other day, whether vines so treated would not require frequent shiftings into larger pots; or, at least, to be shifted once a year. To this I answered, that while we had a plentiful supply of prunings from our own vines, or could procure them from those of our friends, the best mode would be to treat the plants, after they had borne one crop, as we do the roots of asparagus and other plants that we force; that is, to throw them away. If, however, you should wish to keep the coiled plants a second year, and the pots should be found to be too full of roots, turn out the ball, shake the soil from the coil, and cut away all the roots close to the shoot; then re-pot it as before. If this be done in winter, the plant will produce an excellent crop the following season; probably a better one than if the roots were allowed to remain, and the ball shifted into a larger pot or box. The pot or box is, in either case, soon filled with young vigorous fibres, like a hatch of young maggots, each eager for food, and consequently sending it up in abundance to supply the crop above. Can there be a doubt but that this is a far superior mode to keeping pots, or even fruit-tree borders, filled up with old inert roots?

Before my bunches are clearly developed, I have thousands of eager mouths or spongioles, extending along the coiled shoot, and each gaping for food; some of these rootlets are three feet long, and, before the vines are out of blossom, many of them are six feet in length, and

matted round and round the pot. You will easily understand from this, how important it is to supply vines so treated with liquid manure, either by watering from above, or by a supply from a saucer or feeder from below.

Welbeck Gardens, Jan. 16, 1834.

Since we received the above account from Mr. Mearns, we have heard the article on the same subject, to which he alludes, read before a meeting of the Horticultural Society. In this paper, the names of a number of varieties are mentioned, which had been thus fruited; including the muscadines, black clusters, black Hamburgh, black Damascus, black Tripoli, muscat of Alexandria, &c. Mr. Mearns also mentions that, hearing of a new and fine variety of muscat, called the Candia, which had been a few years ago introduced into the Duke of Buccleugh's gardens, at Dalkeith, he wrote last autumn to Mr. Macdonald, the gardener there, for some of the prunings of this vine, and that he had, at the time the paper was written, (Feb. 1834,) plants of the Candia at Welbeck, from coils of the prunings received, with numerous bunches of fruit on them, which would ripen in April and May next.

We regard this discovery of Mr. Mearns as one of considerable importance, not only as showing what may be done in the particular case of the vine, but as tending to familiarise practical gardeners with some points in vegetable physiology. It is clear that the coiled shoot is a reservoir of nutriment to the young growth; in the same manner as the tuber of the potato is an accumulation of nutriment for the young shoots, which proceed from its buds or eyes when planted. To a certain extent, long shoots of any tree whatever if buried in the soil, either coiled or extended, and two or three inches or feet of their upper extremities kept out of the ground, would produce leaves, blossoms, and even fruit, the first year: but those shoots, which, from their nature, do not freely emit fibres, or do not emit them at all, would perhaps not set their fruit; or might even cease to produce leaves in the course of a few months. The reason, in that case, would be, that the reservoir of nourishment soon becomes exhausted, if it is not supplied from the soil; and that the only mode by which the shoot can obtain nourishment from the soil is by means of fibres, which it has either no power of producing at all, or cannot produce in sufficient abundance. The advantages of the coiling system are, that an almost unlimited number of fibres or mouths are produced by it, in a very limited portion of soil; that this soil can be rendered of the most suitable description for the given plant, supplied abundantly with liquid manure, and renewed almost at pleasure. The use of cutting off all these fibres or mouths, when they get too long, is merely to keep them within a limited space; for when a fibre elongates, unless it has, at the same time, room to branch out, so as to produce other fibrils, it can take in no more nourisvment than when it is short, say an inch long; because the nourishment is only taken in by the spongiole, or point of the fibre. The whole art of rapid cultivation, both in ligneous and herbaceous vegetables, proceeds on this principle. The Lancashire gooseberry grower has recourse to it, when he shortens the roots of his plants at

a certain distance from the stem, every two or three years; thus causing them to emit fibres, for which he prepares a circular trench of rich soil round each tree. Mr. Mearns's mode of treating the peach, and other fruit trees, and the mode of cultivating cabbages, and other plants of that kind, by pricking out from the seed-bed, and transplanting and re-transplanting into rich soil, instead of sowing where the plants are finally to remain, all proceed on the principle of multiplying the mouths, and increasing the supply of rich food, within a limited space. The result of this is, both in ligneous and herbaceous plants, that maturity is obtained with less magnitude than in a natural state, and in a much shorter time. The essential principle is, the abundant supply of rich nutriment; and the same principle produces exactly the same results in the animal kingdom. Hence the small-sized, early-fatting varieties of cattle, sheep, swine, &c.

Where a plant or animal is grown or reared chiefly to be consumed as food, the application of this principle seems desirable and advantageous; but when the natural character and beauty of the plant or animal are desiderata, a more natural mode of treatment, or one more resembling that which is generally followed, is requisite for attaining the end in view.

All intricate operations of culture, such as those of the coiling system, the chambering of the roots of trees, taking up and replanting, particular modes of training, ringing, &c. it should never be forgotten either by gardeners or their employers, are only calculated for places where abundance of men are kept, and where also there is considerable skill in at least one or two of these men. When these and similar operations are attempted in places where there are scarcely hands enough to keep the garden in order by the common practices, failure is certain to attend either the new practice or the old ones, and probably both. *Cond.*

[From the Floricultural Cabinet.]

THE DAHLIA.

BY J. MANTELL, F. L. S.

The Dahlia is a native of Mexico, and was first introduced in England in the year 1789, at which period it attracted but little notice, and the species was soon lost. Although this flower was re-introduced by Lady Holland, in 1804, it is only within the last few years that the attention of the florist has been directed to its cultivation and improvement. It is now admitted to be the chief ornament of the flower-garden during the autumnal months, and, independently of the great variety and splendor of its flowers, it is valuable to the florist as filling up a void at that season of the year in which but few other plants are in blossom.

It has been computed that not less than twenty thousand seedling Dahlias are raised annually in this country. The facility with which they may be raised—the comparatively short period which intervenes

between the time of sowing and that of flowering—and the great success which has hitherto attended this mode of propagation, will, no doubt account for the extensive cultivation of this highly esteemed flower.

The Dahlia is propagated by cuttings and by divisions of the root, and new and beautiful varieties are constantly raised from seed. The seed is usually obtained from the finest double flowers, but some successful propagators prefer that procured from semi-double varieties, and we believe that some of our finest Dahlias have been raised from semi-double seedlings. The seed should be collected early in the season, as soon as the blossoms have withered and the receptacles are sufficiently dry ; and if the seeds be allowed to remain in the calices, they will retain their vitality better than if detached from the receptacles.

The seed should be sown in large pans or pots, about the middle of February, and placed in a hot-bed frame. The young pots require to be potted off singly into the smallest-sized pots, soon after the cotyledons are above ground, and when the first pair of leaves are sufficiently developed. They should then be placed in the frame, nearly close to the glass, to prevent them from being drawn up weakly. When of sufficient size, they may be re-potted, placed in a cold frame, and protected at night, till the middle of May, that being the period of planting them in the open air.

Those who propagate extensively, sow the seed in hot-bed frames the beginning of March, and during the month of April, instead of potting, set out the young plants on a slight hot-bed, covering them at night with mats. With the view of obtaining new varieties, some propagators transfer the pollen from one flower to another, by means of a small camel-hair pencil, in which case the flower intended to receive the pollen should be covered with a fine gauze bag, a day or two before the florets expand, and the covering should be continued a few days after the operation is performed. This method is seldom practised, unless for the sake of experiment, as the ordinary mode is found very successful in producing fine double flowers.

Cuttings may be made in March. The old roots should be placed in a hot-house, or in a hot-bed, and the tubers should be covered with mould, sand, or finely-sifted tanners' bark, leaving only the crown exposed. They will soon put forth shoots; these should be carefully detached when about two or three inches in length, and planted singly in small pots filled with a compost of equal parts of well-decomposed leaf-mould, frame manure, and fine sand, to which should be added a sufficient quantity of finely-sifted garden mould. After the cuttings are inserted, they should be put into a hot-bed, carefully shaded from the sun, and protected at night by mats. If, in applying the linings, steam should arise, the plants will be liable to damp off, unless the lights be sufficiently raised to allow the rank steam to escape. In about a fortnight or three weeks the young plants may be removed to a cold frame, and gradually inured to the open air.

Where extensive propagation is required from new and choice varieties, the roots are usually placed in a hot-bed, and every shoot taken off when about two or three inches high, care being taken not to injure the buds which surround the base of the shoot, for if these are

injured or broken off, fresh buds will not be developed from that portion of the crown.

Where only a limited supply of strong and vigorous plants is required, we have recently discovered that the finest plants are produced by detaching the young shoots, when about two or three inches high, so as to include the cluster of buds surrounding the base of each shoot. Some care is necessary in this process; the shoot should be held near its base by the finger and thumb, and by a slight motion of the hand it may easily be detached. If the operation be adroitly performed, the base of the shoot will present a convex appearance, surrounded by a number of incipient buds, and a corresponding concavity willbe found in the crown of the plant from which the shoot has been extracted. Plants raised by this mode not only produce the finest flowers, but the crowns invariably break the following spring, which is not *always* the case with plants raised from cuttings in the ordinary manner: it has been asserted that the cause of the failure has, in many instances, arisen from the removal of the incipient buds at the base of the leaves of that portion of the cutting which is usually inserted in the ground.

There can be no doubt, however, if the buds be removed, the cutting will readily strike root, producing luxuriant foliage and a profusion of flowers. But although the tubers are numerous and fully formed, it will, on inspection, be found that they are merely attached to a hollow stem, and, consequently, the crown being absent, no buds can possibly be developed by any subsequent treatment. It is therefore important, if the perpetuation of the plant be required, that the buds be not removed. Some propagators, indeed, on receiving new plants, examine the roots, and unless a portion of the crown be attached, they cut off the shoot close to the surface, treating it as a cutting, in the ordinary manner.

The plants, whether raised from seeds or from roots, may be planted out into the open borders from the middle of May till the beginning of June. They are usually planted from three to four feet apart; but if planted from four to five feet apart, they will not attain so great a height, and if trained to a single stem, will in general produce much finer flowers. The borders should be well manured every spring before planting, and at the same time about an equal part of good fresh soil should be added. The Dahlia will succeed in almost any soil, though a light sandy loam produces the finest plants: the variegated and striped varieties exhibit their colors more distinctly when planted in a peaty soil. The plan of training Dahlias to a trellis appears a good method of securing them, for when tied up to stakes the wind frequently twists the plants and destroys their tops, but the former mode secures them against all winds, and exhibits the flowers to the greatest advantage: three or four stakes placed angularly round the plant, and the stems tied to them, will also answer the purpose.

To procure fine flowers for floral exhibition some cultivators train the plants to a single stem, removing all superfluous side shoots, as well as flower-buds, leaving only one or two flowers to expand. The soil should be kept constantly moistened, and when the plants come into blossom manure water should be liberally supplied. It has been asserted that some of the spotted varieties succeed best in a poor soil

destitute of manure, and that success may generally be insured by removing the self-colored blossoms as they appear. The luxuriant growth of plants may be greatly retarded by treading the earth firmly round the roots. When the soil is of a loose open texture, evaporation should be checked by mulching the plants, and if the soil be covered with moss the moisture will be more effectually retained, and it will give the borders a neater appearance.

When the blooming season is near its close, about four inches thick of decomposed bark, or of leaf soil, should be laid over the roots, extending two feet round the stem of each plant, to prevent the crown being injured by sharp and sudden frosts.

The tubers should be taken up on a dry windy day and the soil carefully shaken off, so as not to twist the roots. Having been removed to an airy situation in a shed, they should be placed singly over the floor, till the soil remaining on the tubers be dry, when they should be laid on shelves secure from damp or frost, and be covered with dry sifted tan or gray sand: they will, if so managed, keep perfectly sound till the following spring.

Choice seedlings or small tender tubers may be preserved during winter by placing them in pots of sandy loam, and giving them at the time of potting a slight watering, keeping them afterwards in a dry situation.

Criteria of a fine double Dahlia. The flower should be erect and stand completely above the foliage, for if the peduncle be short, so that the flower be hid among the leaves, it will not be displayed to advantage.

Form, color, and size are considered the essential properties of a fine Dahlia.

1. *Form.* All good judges allow that perfection in form consists in the near approach to a hemisphere. The Springfield Rival may be given as an instance of the nearest approximation to a perfect flower: it is, however, too flat in the centre, and the outward petals are reflected. It is essential that the outline should form a true circle, and consequently the petals should be regularly disposed, rounded, smooth at the edges or rose-leaved, and slightly concave, but not so much so as to let the back of the petals be seen in the front of the flower. Those flowers whose petals are narrow, pointed, notched, or fimbriated, as well as those that are flat or convex, however desirable for the flower border, are objectionable as show flowers, as are also those which when fully blown exhibit the eye or disk. In some Dahlias the petals near the centre converge, and conceal the disk, which, when the florets are fully expanded, become exposed; these are, therefore, pronounced by florists imperfect flowers.

If the hemispherical form be assumed as the point of perfection in the Dahlia, those flowers would be preferred that rather exceed than fall short of this standard. The Countess of Liverpool has been adduced as an illustration of the former, and Lady Grenville of the latter, and the mean between these two examples constitutes an excellent criterion whereby to judge of perfection in the form of the Dahlia.

2. *Color.*—As it regards color, much must depend upon taste, but selfs, of whatever color they may be, should be bright and distinct.

In striped, spotted, tipped, or variegated varieties, the colors should be well-defined and every petal uniformly and distinctly marked. Those that are pounced, blotched, variously or irregularly marked, are inadmissible as show flowers.

3. *Size.*—When other properties are equal, size will determine the preference; but in judging of a good Dahlia, form must have the pre-eminence, then color, and lastly, size; but in no instance should either form or color be sacrificed to size. The relative proportions of excellence in these criteria have been thus estimated:—form three, color two, size one. Thus a Dahlia, possessing the properties of form and color, would be judged superior to one having color and size, the relative proportions being as five to three. By this standard the comparative merits of this class of show flowers have been estimated by the censors at the exhibition of the Metropolitan Florists' Society.

[From Loudon's Magazine.]

CROPPING BORDERS IN WHICH FRUIT TREES GROW.

Sir,—Having for some years been an advocate for not cropping the borders of fruit trees, I have noticed, with pleasure, that you have several times called the attention of your readers to the subject. I beg leave, therefore, on the present occasion, to make a few observations for the consideration of those who are of a different opinion; as I think that, before long, it is very likely that, instead of having a border of ten or twelve feet wide close to the wall to be constantly dug and cropped, and a gravel walk four or five feet wide beyond it, we shall see a wide gravel walk close to the wall, over a previously prepared border; for I am persuaded it is owing more to the digging and manuring the border, than to any other circumstances, that there are so many failures of fruit trees. I have seen the above method (of graveling the borders to walk upon) practised on a small scale, and I am not aware of a single failure. I have often noticed that, in the formation of borders to vineries, or green-houses where vines were to be planted, after much expense and labor bestowed, it has ended in disappointment; the cause of which I consider to be the planting of the borders with vegetables, if in the kitchen-garden, and with flowers, if in the flower-garden. Perhaps it may not be amiss to mention here, that many persons who are very particular about pruning their vines in the autumn, to prevent their bleeding, will nevertheless delay digging the borders till February or March, when all the roots within the reach of the spade are sure to be cut and made to bleed, without being observed. In many cases where prepared borders have failed to produce fruitful vines or other trees, it is very often to be seen that a tree or vine, planted against a building, merely for the sake of hiding it, seldom fails to produce a crop of fruit, although it has nothing below but the natural soil, and this covered over with gravel, or other materials, to form a walk. I could mention several instances of this kind, some of which are within a few yards of where I am writing, and many others in the neighborhood; and I have no doubt that many of your readers will be

able to see the same, after it has thus been pointed out to them. One of the instances which have come under my observation is within a short distance of my cottage. It is an extensive range of glass, used chiefly for stove and green-house plants, with a vine trained up each rafter, not one of which is worth the trouble bestowed on it annually in tying, &c. The roots of these all running directly into the borders and clumps of a flower-garden, it is not thought that the fault can be in the soil, as it is so well cultivated for the plants in it, but this I consider to be the only cause of their failing; as within a few yards of these is a building of considerable height and length, of the same aspect as the others, having vines trained all over it, which are planted (as far as I can learn) in nothing but the natural soil, having a wide gravel walk over their roots. beyond which they have nothing else but a lawn.

They have, therefore, in all probability never been disturbed since they were planted. These I have known for several years, but I do not recollect ever having heard of their failing to produce good crops. Young vines, also, which have been planted amongst them, have begun to bear. Instances of this kind are so numerous, in front of dwelling-houses and other buildings, that it is unnecessary for me to say any more on the subject; I shall therefore conclude with hoping that those who have hitherto attributed it to the soil will reflect whether in some measure it may not be owing to the cause I have mentioned.

I am, Sir, yours, &c. R. T.

[From Loudon's Magazine.]

FRUIT ON PEAR TREES.

A Successful mode of securing a Crop of Fruit on Pear Trees. By Mr. B. Saunders, Nurseryman in the Island of Jersey.

Sir,—The fact that many disappointments are experienced by gardeners, and also by amateurs, in their endeavor to procure crops of many fine sorts of pears, is so well known, that it needs only to be mentioned to be assented to. The practical application of the following suggestion will, however, remove, in many instances, these disappointments, and insure good crops.

There are many varieties of pears, which, every year, blossom very abundantly; and yet, to the great disappointment of the cultivator, the whole of the flowers fall off without setting a single fruit, although the soil and situation may be very congenial, and every care has been taken in planting, &c. This is the case with the Duchesse d'Angouleme, and with many others I could mention. The trees of these varieties, according to my observations, devote the whole of their strength and sap to the production of a superabundance of blossoms; but, unless they are assisted by art, they have not sufficient strength to set their fruit. In order, then, to remedy this defect, and to assist nature as much as possible, I have adopted the following plan, with great success and satisfaction, for the last three years:—

Take a pair of scissors (such as are used for thinning grapes), and go over the corymbs of flowers, or rather of flower-buds, as soon as

they are sufficiently elongated to allow the points of the scissors to pass between them (that is, some days before the blossoms are expanded,) and thin them; leaving only five or six blossoms in each, according to the size of the corymb; always preferring to leave the flowers which have the stoutest stalks, and those which are nearest the centre. This operation has the effect of diverting the sap to the flowers which remain, and gives them sufficient strength to set from one to three fruits in each umbel; which will prove a sufficient crop, and well repay the labor bestowed. Another mode, less tedious than the above, is also practised here, with success, on young trees. It consists in deferring that part of the pruning of them which is termed shortening the young wood, until the blossoms are in about the same state as is described in the above directions for thinning, and then shortening them back to the required length. This also checks the progress of the sap, and enables the tree to set fruit very freely. I am aware that my plan is a tedious one, and one that is almost impracticable on a large scale; but it is decidedly an excellent plan for dwarf trees in gardens, whether they are cultivated in the *quenouille* mode, against walls, or as espaliers; as these trees come within the reach of the hand, of a pair of steps, or of a ladder. In the hope that these remarks may, through your indulgence, avail my fellow-laborers in horticulture, at the coming season, I am, Sir, yours, &c.

BERNARD SAUNDERS.

We recommend the above article to the particular attention of young gardeners. The system of thinning out blossoms, suggested in the above paper by Mr. Saunders, is applicable to all fruit trees; and, if generally adopted, would insure important results. We know an instance of a large apple orchard, the property of a commercial gardener in Kent, in which a knife has never been used: every thing is effected by disbudding, and pinching out young wood with the finger and thumb. The proprietor is not a scientific gardener; and he adopted the above practice from no particular theory, but simply from his own observation and experience, to save labor, and to insure good crops of large fruit.

[From Loudon's Magazine.]

ON GROWING LARGE GOOSEBERRIES FOR EXHIBITION.

BY MR. M. SAUL.

Sir,—In the year 1827, I sent you an account of the mode then practised in this country, of training gooseberry trees, so as to make them produce large show fruit. At that time, it was generally supposed that to obtain fine show gooseberries it was necessary to train the trees; and that, if so treated, in five or six years they would be found to have become strong, and would be sure to produce large fruit. The result of seven years' experience, however, proves that training is quite unnecessary. Gooseberry bushes are only found to produce fruit suitable for exhibition when they are four or five years old; because the fruit after that age decreases in size, though it in-

creases in number. Gooseberries rarely, if ever, produce fruit of a very large size for more than two years together; and generally only one season. The mode usually now practised here is, to take a gooseberry tree out of the nursery in its second year. The next year (being the first after transplanting) it is not allowed to bear any fruit; but the year following, that is, in the fourth year of its age, it is in its prime, and will produce its largest and finest fruit. We seldom hear of the same tree producing equally fine fruit for even two years in succession: the Bumper, which produced the largest berry in 1832, weighing 30 dwts. 18 grs., the succeeding year did not produce any berry weighing above 22 dwts. 5 grs.; and many other examples might be given.

ON A NEW METHOD OF WRITING ON ZINC, FOR LABELING PLANTS.

The following, from Paxton's Horticultural Register, will prove useful to Gardeners:—Mr. Henry Braconnot, the celebrated French Chemist of Nancy, to whom we are indebted for the curious transformation of rags and other similar vegetable substances into starch, gum, and sugar, by the agency of Oil of Vitriol, and whose name is well known in the chemical world for various researches connected with the analysis of vegetable substances, has given in the last number of the Annales de Chimie et de Physique, a preparation for writing on plates of zinc to label plants. The writer, having a dislike to painting in oil, which is often inconvenient, and never endures a long time, resolved to turn his attention to some other way which would prove both ready and durable. The system of writing on zinc with a black crayon, which was accidentally discovered by M. Symon, an Amateur at Brussels, and noticed in the *Revue horticole* for October, 1832, and the *Bon Jardinier* for 1833, possessing many imperfections, Mr. Braconnot to try some experiments, being anxious to obtain a liquid, or a species of ink, which would be perfectly durable when exposed to the changeableness of the weather, and also one with which he could write with ease. This end, after several proofs, he is induced to believe he has in a great measure attained. If it answers, he will have done both the botanists and amateurs a real service. The preparation is as follows:—

Take Verdigris in powder one part,
Salamoniac in powder one part,
Lamp black (Mori de Fumea) half a part,
Water ten parts;

Mix these in a glass or pot mortar, at first only adding as much water as will mix it well, then add the remainder of the water, when placed in a vessel, let it be well shaken up from time to time, and in a few days it will be ready for use. This is not only excellent for labeling plants, but also for marking objects it is wished to preserve in low, wet situations, and for marking key, becoming quickly dry and being very durable.

[From Loudon's Magazine.]

PURPLE BROCCOLI FROM SLIPS.

On propogating the Purple Brocoli from Slips, and on the Agency of Manure prepared from Sea Weed in improving various Vegetables. By Mr. T. Rutger.

Sir,—On reading Mr. Kendall's article upon the propagation of cabbages from slips, I feel inclined to draw the attention of your readers to the growing of purple broccoli in the same way; a practice which was adopted, some years since, in the west of Cornwall, and, for aught I know, may be still continued there. The variety thus treated seemed to be rather peculiar in its habits, and compact and handsome in its growth. The head being removed for culinary purposes, the method was to let the stump remain, which had already thrown out sprouts below; and these, on being left to grow, showed no indication to form heads for that season. In the month of June, the sprouts were sufficiently advanced to be slipped off; and, after being exposed a day or two in the sun to cauterize the wound, they were planted out in the usual manner. In two or three weeks they had taken root, and in the conrse of the autumn made fine stocky plants. I have seen many instances of the broccoli thus grown having heads three feet in circumference, and as close and compact as possible; but this extraordinary luxuriance was, I believe, principally owing to the nature of the manure used.

This manure consisted principally of sea weed, of the genus *Ulva*, several varieties of which are drifted on the sands in immense quantities in stormy weather. The weed forms a principal article of manure to the farmers, as well as to the market-gardeners in the neighborhood of Penzance and other parts in the west of England, and is sought with avidity by both classes after a heavy gale, it being found, from experience, to be an excellent manure for a single crop. The farmers in that neighborhood mix it up with earth collected from furrows ploughed at certain distances in the field, and with sea sand, and, thus mixed, it rapidly decomposes, and soon becomes fit for use. The market-gardeners and cottagers frequently make use of it as a manure, in its raw state, for onions, potatoes, &c. For onions, the ground is so prepared, that, after a layer of it is spread over the surface, there may be a sufficient quantity of earth to cover it about two or three inches thick; after this has been leveled, the seeds are sown and raked in, and the produce, in many instances, is but little, if any thing, inferior in size to the onions imported from Lisbon. For potatoes, it is used either by putting a layer of it over the sets, whether in furrows or beds, and afterwards covering it with earth; or putting a layer of it first, placing the sets upon it, and then a covering of earth. In reference to the kidney potato, I think I may safely aver, that in no part of England are potatoes of this description to be found equal in quality to those grown in the neighborhood of Penzance; where, by extraordinary labor and care, they are frequently brought to market by the middle of May. The sort principally grown for an early crop is known there by the name of "the Yorkshire kidney." I am not certain if this be its proper appellation, but it forms a long, handsome, flattish, tuber, with the crown of a purplish hue.

With regard to the broccoli noticed above, in the ordinary course of garden culture, it forms a head averaging about two feet in circumference; its flavor is excellent, and, as such, it may be well recommended to notice; more especially as, by its being propagated from slips, it is secured from any variation from its natural habit.

[From Loudon's Magazine.]

A DESCRIPTION OF A MODE OF CULTIVATING ONIONS.

BY MR. WILLIAM WHIDDON.

Sir,—Your correspondent, John Mitchell, jun., treats on the culture of the onion. I write not to dissuade him from following the plans which his own observation has suggested to him, but to state my own experience on this subject, as it differs widely from his. In March, 1830, I lived as gardener to J. B. Praed, Esq. of Tyringham, Bucks; and, having occasion to make an asparagus bed, I resolved upon sowing onions, of the Deptford sort, in drills between the rows. The ground was not prepared in the way usual for asparagus, but turned over to the depth of one spade only. The soil being of a tenacious and cohesive quality, I used a quantity of coal-ashes and rotten dung: and, all being in readiness for the asparagus, I proceeded to plant it in rows eighteen inches asunder, and the onions in drills between these rows. I finished each row as I proceeded, which caused a great deal of trampling, and the ground was remarkably hard after the whole was completed. When the crops began to grow, I thought of hoeing, thinning, &c.; but, being a native of Northampton, where some of the best onions in the kingdom are grown, I recollected seeing, at different times, onions growing in the hard walk, and these the best sample of a whole acre. I accordingly resolved to let my crop take its chance. Weeding and thinning were performed by the hand, which greatly increased the solidity of the soil. My crop was pulled up without attention being paid to any particular time or form; the onions composing it were sound and good, while the crops of my neighbors were suffering from what are termed mouldy-nosed onions. I had several bushels from a small piece of ground, and was obliged to exchange with my neighbours for picklers. I presented Mr. Atkins, nurseryman, of Northampton, with twelve which weighed eleven pounds. I planted twenty-four of them the succeeding spring, for seed, which weighed nearly twenty-two pounds, and were shown to several friends before they were planted, who can testify the fact. I cannot say what quantity of seeds they produced, as I left my situation at that time.

A great deal has been said about growing large onions; but, according to my humble opinion, large onions are not the most desirable. From my experience (which, I confess, is not a lengthened one, as I am but a young gardener,) an onion from one to two inches diameter is the most profitable, of the readiest sale, and the best for gardeners and gentlemen. When a large onion goes into a gentleman's kitchen, it is cut, and a part only is used; the remainder loses its quality, and

ultimately bears company with the peelings to the dung heap. I advise John Mitchell, if he wishes for large onions, to try as I have suggested above. His soil will suit every purpose. He will find an advantage in time; run no risk in displacing the roots, which is apt to check vegetation; and he will not be so likely to get disease in the crops, as the trampling forms gutters in which he can, if dry weather occur, put water, and supply the roots more gradually with moisture; or, if a continuance of rain should happen, these gutters will carry off the superfluous water.

Chicheley Hall, Bucks.

[From Loudon's Magazine.]

POTATOES.

On the Uselessness of earthing up growing Crops of Potatoes. By Joseph Hayward, Esq. Author of "The Science of Horticulture," &c.

Sir,—I would offer a few hints that may aid the endeavors of those who advocate the benefitting of the condition of the poor: they may contribute to increase the objection which some have urged against exhausting the powers of labor. Mr. Knight's observations regarding the potato are valuable; but there is one laborious operation commonly resorted to in cultivating this vegetable, which, I think, has not been sufficiently considered; and which, I am convinced by more than ten years' experience, is superfluous. Observing that a farmer in managing a field of potatoes alongside one of mine, did not earth them up, but simply flat-hoed the surface of the soil to clear away the weeds, while I had mine earthed up with great care, I determined on noticing the difference on taking up the crop; and, to my astonishment, he had 14 tons per acre, while I had not more than half the quantity, and his potatoes were of a more marketable quality than mine; being generally of a good size, while mine were large and small. The result induced me to question the farmer; and he told me it was a practice he had followed for many years, as he thought the earthing up was worse than labor thrown away; that, a year or two before, he had obtained 19 tons per acre by the same management. This statement put me upon considering the principles upon which such a result was founded; and it appeared to me that, by drawing up the earth over the potato, in sloping ridges, it was deprived of its due supply of moisture by the rains; for, when they fell, the water was cast into the ditches. Further, in regard to the idea that, by thus earthing up, the number of tubers is increased, the effect is quite the reverse; for experience proves that a potato placed an inch only under the surface of the earth will produce a greater number of tubers than one planted at the depth of a foot. From reasoning thus, I determined to adopt the practice: however, such is the force of prejudice, that I have been able to make but few proselytes. A year or two since, I prevailed on a clergyman to try the practice on a strip of half an acre, running through a large field, treated in the common manner; and he told me that, on taking

up the crop, he did not find much difference in the gross quantity; but that those which had not been earthed up were, more generally, of a good size; not so many large and small as the other part of the field. I have no doubt, if potatoes are planted shallow, and placed wide enough apart to admit of the stems being laid down after the young potatoes are formed, and to have the earth between them thrown over five inches or six inches thick, so as to form a flat surface, that it would increase the crop. But this is a very different operation from that I object to.

PREMATURE SHRIVELING OF GRAPES.

On the premature shriveling of Grapes in Forcing-Houses. By Mr. J. D. Parkes, F. H. S. Nurseryman, Dartford.

Sir,—A variety of causes have been assigned for that disease in forced grapes which produces a shriveled appearance in the footstalks of the bunches, and also a want of size and color in the berries; more especially in the Frontignans and Muscats. Some consider that it proceeds from the roots being too deep in the ground; others think that it is occasioned by the temperature of the earth in which the root grows (when vines are planted outside the house) being so much lower than that of the atmosphere within; and some attribute the disease to a want of air.

Having observed that early forced grapes are in general free from this disease, and that it never occurs to grapes grown in the open air; and having found, in a house under my care, that some bunches immediately over a steam-pipe were free from it; I have come to the conclusion that the cause is, stagnation of cold moist air; and the remedy, the application of artificial heat, to such an extent (even in summer when the weather is cloudy,) as to admit, every warm day, of opening the windows sufficiently to occasion a free circulation of air.

A gardener, to whom I stated this as my opinion of the subject, has practised my plan every year since, with the most complete success.

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C. M. HOVEY, Librarian.
Two vacancies.

COMMITTEE ON SYNONYMS OF FRUIT.

JOHN LOWELL, Chairman,
ROBERT MANNING,
WILLIAM KENRICK.
One vacancy.

COMMITTEE ON THE GARDEN AND CEMETERY.

JOSEPH STORY, Chairman,
JACOB BIGELOW,
GEORGE BOND,
B. A. GOULD,
JOSEPH P. BRADLEE,
CHARLES P. CURTIS,
SAMUEL APPLETON,
ELIJAH VOSE,
CHARLES BROWN.

EXECUTIVE COMMITTEE.

ELIJAH VOSE,
JOSEPH P. BRADLEE.
Three vacancies.

COMMITTEE ON FINANCE.

ELIJAH VOSE, Chairman.
Two vacancies.

Pl. I.

For the Horticultural Register. Pendletons Lithog. Boston.